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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,897	04/26/2006	Tim Hsu	2484-050555	1978

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THE WEBB LAW FIRM, P.C.
700 KOPPERS BUILDING
436 SEVENTH AVENUE
PITTSBURGH, PA 15219

EXAMINER	
TOOMER, CEPHIA D	

ART UNIT	PAPER NUMBER
1797	

MAIL DATE	DELIVERY MODE
06/23/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,897	HSU ET AL.	
	Examiner	Art Unit	
	Cephia D. Toomer	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21,23-33 and 35-78* is/are pending in the application.

4a) Of the above claim(s) *35-78* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21 and 23-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to the amendment filed March 29, 2010 in which claims 1 and 17 were amended.

The claim objection and the rejection of the claims under 35 U.S.C. 112 are withdrawn in view of the amendment to the claims.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6, 8, 13, 16-21, and 23-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohlhepp (US 5,401,799) in view of Haack (US 5,889,102).

Kohlhepp teaches a thermoplastic molding composition comprising from 20 to 70 % by wt of polyphenylene sulfide, (b) from 5 to 20 % by wt of polyethylene, (C) from 10 to 40 % by weight of a fibrous reinforcing agent, (D) from 10 to 40% by wt of an inorganic filler, and (E) up to 1 wt % of a lubricant and/or other additives (see abstract).

The fibrous reinforcing materials are glass fibers or other heat-resistant inorganic or organic fiber materials (see col. 2, lines 21-25). The inorganic fillers are non-fibrous structures such as talc, kaolin, quartz, chalk and mica (see col. 2, lines 26-29). Kohlhepp exemplifies pentaerythritol tetrastearate as the lubricant (see Table 1,

footnote 5). Kohlhepp teaches the limitations of the claims other than the differences that are discussed below.

Kohlhepp fails to teach the addition of a polymeric lubricant such as PTFE (claims 1, 23, 32 and 33). However, Haack teaches fluoropolymers such as PTFE in molding compositions (see col. 1, lines 46-50).

It would have been obvious to one of ordinary skill in the art to include a polymeric lubricant such as PTFE because Haack teaches that it is a conventional lubricant for molding compositions and that it is an art recognized equivalent of pentaerythritol tetrastearate, which is taught by Kohlhepp as the lubricant of his invention.

Kohlhepp fails to teach that the lubricants are amides, fatty acid salts or waxes (claims 25, 27-30, 32 and 33) or that the filler is titanium dioxide (claim 32). However, Haack teaches these differences. Haack teaches that lubricants such as fatty acid esters, fatty acids, fatty acid monoamides, fatty acid diamides, metal soaps and polyethylene waxes are known to improve the sliding and abrasion behavior of plastics (see col. 1, lines 31-50). These generic compounds encompass the specific compounds of the present claims, absent evidence to the contrary. Haack teaches that the fillers taught by Kohlhepp (chalk, talc, mica, etc.) are equivalent to titanium dioxide (see col. 1, line 66 through col. 2, lines 1-3).

It would have been obvious to one of ordinary skill in the art to include the above lubricants because Haack teaches that these lubricants improve the sliding and

abrasion behavior of the plastics and that they are art recognized equivalents to the lubricant taught by Kohlhepp.

It would have been obvious to one of ordinary skill in the art to use titanium dioxide as the filler because Haack teaches it is an art recognized equivalent to the fillers taught by Kohlhepp.

With respect to claims 13, 16, 17 and 31-33, since Kohlhepp teaches a similar molding composition it would be reasonable to expect that Kohlhepp would meet the limitations regarding the stability temperature, MI ratio and deflection temperature, absent evidence to the contrary.

3. Claims 7, 9-12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohlhepp as applied to claims above, and further in view of Lahijani (US 6,013,719).

Kohlhepp has been discussed above. Kohlhepp fails to teach that the thermoplastic is PEEK, PEK, or PEKK. However, Lahijani teaches this difference.

Lahijani teaches that polyarylene ether ketones and polyphenylene sulfide are thermoplastics that are thermally stable at a temperature of at least 140 C. Lahijani teaches that polyarylene ether ketones (PEK, PEEK,and PEKK) provide the highest thermal stability of the thermoplastics (see col. 2, line 41 through col. 3, lines 1-40).

It would have been obvious to one of ordinary skill in the art to substitute a polyarylene ketone for the polyphenylene sulfide because Lahijani teaches that the ketones are more thermally stable than the sulfides and their used would improve the properties of the resin composition.

With respect to the MI, it would be reasonable to expect that the polyarylene ketones would possess the claimed MI since they are used for the same purpose as that of the present invention.

Response to Arguments

4. Applicant's arguments filed March 29, 2010 have been fully considered but they are not persuasive.

Applicant argues that Haack contains no teaching or suggestion to replace the ultrahigh molecular weight polyethylene (UHMW-PE) lubricant of Kohlhepp with the fluoropolymer of Haack.

The examiner has not suggested that the UHMW-PE be replaced by the fluoropolymer. Applicant's claims are drafted with the transitional term “comprising”. The transitional term “comprising”, which is synonymous with “including,” “containing,” or “characterized by,” is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., Mars Inc. v. H.J. Heinz Co., 377 F.3d 1369, 1376, 71 USPQ2d 1837, 1843 (Fed. Cir. 2004). Therefore, the addition of the fluoropolymer is not excluded from the claims. Furthermore, Kohlhepp teaches at col. 1, lines 32-37 that polyphenylene sulfide, one of Applicant’s thermoplastics, has been treated with PTFE and UHMW-PE. Therefore, Kohlhepp provides motivation to add a fluoropolymer to the resin composition.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 571-272-1126. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cephia D. Toomer/
Primary Examiner
Art Unit 1797

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